BEFORE THE STATE OF WASHINGTON

ENERGY FACILITY SITE EVAUATION COUNCIL

In the Matter of Application No. 2004-01: WINDRIDGE POWER PARTNERS, LLC; WILD HORSE WIND POWER PROJECT	EXHIBIT_35-T(PBD-T)_____

APPLICANT'S PREFILED DIRECT TESTIMONY
WITNESS # 16: P. BARTON DeLACY

Q Please state your name and business address.

A P. Barton DeLacy; 200 SW Market St., Suite 200, Portland, OR 97201

Q What is your present occupation, profession; and what are your duties and responsibilities?

A I am a real estate appraiser and land use consultant. I presently am a Director in the Valuation Services Advisory Group for Cushman & Wakefield of Oregon. I procure, perform and review fee engagements relating to the evaluation of real property. I also prepare analyses to support litigation regarding real estate values, land use impacts and valuation issues for eminent domain proceedings.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

Q Would you please identify what has been marked for identification as Exhibit 35-1 (PBD-1)?

A Exhibit 35-1 (PBD-1) is a résumé of my educational background and employment experience. I have also attached a bibliography with references I have consulted (Exhibit 35-2 (PBD-2)).

Q Please explain the purpose of your testimony.

A I am providing testimony relating to an analysis completed by my company to address whether the proposed Wild Horse wind power project might affect property values in the vicinity of the wind turbine generators.

Q Does your testimony summarize your analysis?

A Yes

Q Did you conduct and prepare the property value impact analysis, or, if not, did you direct and/or supervise its preparation?

A Yes

Q Is the information in this analysis within your area of authority and/or expertise?

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

A Yes

Q Are the contents of this analysis either based upon your own knowledge, or upon evidence, such as studies and reports as reasonably prudent persons in your field and expertise are accustomed to rely in the conduct of their affairs?

A Yes

Q To the best of your knowledge, are the contents of this analysis true?

A Yes

Q Do you incorporate the facts and contents of this analysis as part of your testimony?

A Yes

Q Are you able to answer questions under cross examination regarding this analysis?

A Yes

Q Would you please briefly describe your expertise and qualifications?

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

A My personal experience with the siting of structures or controversial land uses in rural areas spans over 25 years. This experience includes evaluations of property value impacts for the placement of transmission towers, power lines, underground pipelines, the extension of gravel mines, siting of prisons, power plants, land fills and evaluation of air emissions from a cement kiln. I have been a licensed or certified appraiser since 1979 and am certified in the State of Washington, as well as Oregon, Montana, Idaho and California. My professional credentials include the MAI designation and a Masters degree in Urban and Regional Planning (see my accompanying CV). I served five years on a city planning commission and was appointed to a statewide emergency siting authority to site four youth prisons.

Q Have you qualified as an expert witness in the State of Washington?

A Yes. I have previously qualified as an expert witness before the Energy Facility Siting Council, giving written testimony on the Kittitas Valley Wind Power Project. I have also testified as an expert witness at a Board of Equalization Hearing in Kitsap County. I have also testified as an expert witness regarding land valuation and land use impacts before the Oregon Energy Facility Siting Council (EFSC). Previously, I was qualified as an expert witness for real estate valuation and land use impacts in both State and Federal Courts in Oregon and California.

Q Would you please summarize and briefly describe the information and data you collected, as well as your method for analyzing the effect of the proposed Wild Horse Wind Power Project on local property values?

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

A The scope of my analysis included field inspections of the potentially affected areas in Kittitas County, particularly along the Vantage Highway. Earlier this year I also inspected potentially affected sites near the proposed Kittitas Valley ("KV") Wind Project. Similar to my prior analysis for the KV Project, for Wild Horse I studied parcel configuration and placement of dwellings along the periphery of the 8,600 acre proposed Wild Horse Project. I confirmed physical property data through inspections and with Kittitas County Assessor records. I analyzed a comprehensive compilation of 56 properties comprising nearly 4,000 acres which abut or may be in sight of the proposed Wild Horse wind farm. I reviewed available literature regarding land use impacts of energy facilities (see accompanying bibliography) including peer-reviewed studies.

I carefully studied a May 2003 analytical report, *The Effect of Wind Development on Local Property Values*, by George Sterzinger for the Renewable Energy Policy Project ("REPP") which found no evidence of impacts from wind farms. I also reviewed a British survey by the Royal Chartered Surveyors ("RICS") which suggested wind farm developments had adverse impacts in England.

For both Kittitas County projects I have studied multiple listing and county assessor records on property sales for potentially affected sites in the area. These records have been supplemented with several interviews with local Kittitas County real estate brokers and appraisers regarding specific transactions and the anticipated effect of the Project on the area.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

Our work included references to an earlier analysis of property impacts which we prepared for the KV Wind Project, a similar project proposed on property approximately 21 miles to the northwest of the Wild Horse project. To assess impacts on property values in rural areas surrounding Ellensburg, we compiled transactional data for Kittitas County, going back over ten years. This data, which runs through early 2004, has applicability to the east along the Vantage Highway.

I have also referenced a study I conducted in July 2004 on a proposed 1160 MW combined cycle natural gas generation power plant, to be sited in the Langell Valley, east of Klamath Falls, in remote south-central Oregon.

The nearby Kittitas Valley Wind Power Project was announced over two years ago, so we were able to track paired sales where the rate of appreciation could be calculated between a transaction made after the announcement and one some time before. These statistics have been incorporated in our analysis. Further, we collected anecdotal observations from local brokers regarding property-specific reactions, reflected in sale price, when parties were informed about the proposed wind turbines.

A similar analysis of transactions was not possible around the Wild Horse Project because the rural areas east of Ellensburg are only sparsely settled and lack the relative volume of transactions we could compile for the more populous western areas of the County.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

In fact, for the Wild Horse site so few sites may be directly impacted by views or proximity, that we can address impact on a property specific basis.

Since the turbines in Kittitas County have yet to be constructed, actual impacts may be difficult to assess. However, a field poll taken by Evergreen Research Corp. ("Evergreen") between September 5-9, 2002 on behalf of enXco (another wind power development company) showed that 92% of all respondents (from a statistically significant random sampling of Kittitas County residents) were aware of the wind farms proposed for development in the county. The poll showed that over 70% of respondents supported the development of wind power projects in the county once informed of their scope and purpose.

Personal preference, it should be noted, does not necessarily affect property values. In addition to evidence of the potential property owner preferences (i.e. perceptions and biases regarding the impacts of wind power projects on daily life and property ownership in the County), the Evergreen survey indicated a very high level of awareness of the pending KV and enXco Desert Claim projects. This awareness could tend to influence property purchase decisions in areas with views of the wind power project sites. However, as described below, the analysis we conducted showed no negative impacts on property values and sales based upon knowledge of the pending Kittitas Valley Wind Power project.

Our statistical analysis of the Kittitas Valley view shed (conducted for the KV Project) closely paralleled the methodology used by the REPP. We selected as comparable areas

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

lower Kittitas County, which includes affected areas of the Valley, and the City of Ellensburg, the nearby community, which lies beyond the view shed.

We looked at changes in property values over a 6 year period; 4 years before the announcement, and the two years hence. If property values were to be adversely impacted by the wind farm, then value trends post announcement should have been negative compared with comparable areas unaffected by the turbine placement. The REPP study showed that in most communities tested, property values increased post installation at the same rate or at faster rates than the control community. We found the same trends to be true here in the Kittitas Valley. It should be noted that for these studies to have validity, a certain time lag must be observed. Time intervals of at least a year provide for consistent results. Hence, we have not updated our sale data since May 2004.

I should note that I have considered both statistical and anecdotal data and studies based on both types of information. The British RICS survey of appraisers, or "valuers", reports somewhat negative findings based on solicited opinions regarding perceptions of impact. This type of analysis purports to document adverse impacts on property values, yet it lack any rigorous statistical evidence based on transactions. The study is little better than an opinion poll. Notwithstanding reported apprehensions that people may have regarding how nearby turbine structures may impact property values, this poll lacks any statistical data demonstrating such an effect.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

A recent *Appraisal Journal* article by Albert R. Wilson (Summer 2004) takes issue with studies which assumed a negative effect on property values from undesirable land uses without testing the null hypothesis of "no effect on value." Wilson's study found no evidence that a Null hypothesis could not be rejected. His study did not use regression or hedonic modeling. Instead, he applied various tests used to evaluate mean generated statistics such as the t-value.[1] The "t" statistic is a measure describing how well sample averages deviate from the central "tendency," i.e. how well the points fit or deviate from the line.

The case at issue in the Wilson study involved properties proximate to the Wyman-Gordon plant in Grafton, MA from 1986-1998. The plant was alleged to have disposed of radioactive materials and chlorinated solvents contaminating ground water. The study began four years before problems reported and extended four years beyond. These undesirable and potential health threatening conditions were well publicized during the period studied. Wyman-Gordon was a Korean War era defense plant which boasted the largest metal parts forge in the world.

Wilson concludes: "It seems likely that ordinary, individual (i.e., personal) economics are the primary driving force in the transactions [i.e. repeat sales of affected residential properties]…Specifically, unless there is some impact on the use and enjoyment of a home, the sellers appear unwilling to accept a discount just for proximity [to the undesirable land use]. Further, a sufficient number of buyers who are unimpressed by the condition exist in the marketplace to make discounts unnecessary".

[1] Wilson, Albert R., "Proximity Stigma: Testing the Hypothesis", *The Appraisal Journal,* Vol. 72, no. 3, Summer 2004, 253-261

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

Q. Please explain what studies you considered and how they relate to the Wild Horse Wind Power Project.

A. Real estate appraisers, social scientists, environmental engineers and lawyers have long debated the question of measuring and evaluating the likelihood of negative property value impacts from adverse land uses or events. Under certain circumstances, money damages may be at issue if significant diminution in value can be proven. This question of value impacts has not, historically, been asked relative to the siting of remote rural facilities, like the proposed wind power project. In particular, most of the literature analyzes property values of sites with potential or actual negative environmental impacts, versus environmentally benign (or advantageous) wind energy facilities. Therefore, the studies cited here have proved informative.

An important issue to investigate is whether and to what extent lightly populated rural areas may or may not be susceptible to the same type of stigma, which the studies have been able to document in urban areas.

The predominant activity stimulating this research over the past 30 years has been the emergence of large scale and public environmental clean-ups. Much of the available literature deals with the consequences of discovery and clean-up of Superfund sites.

Once remediated, a second question regarding the prospects of recovery back to some pre-event equilibrium raises concerns of long term "stigma."

Most of the studies focus on that most sensitive of real estate types: the single-family dwelling. Commercial properties can also be adversely affected by externalities but the

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
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dpeeples@ix.netcom.com

nature of their investment value (i.e., passive rent collection) allows for capitalization of diminution affects through rent reductions and vacancy increases. The value of residential property is much more susceptible to consumer preferences. In short, based upon subjective judgment, no one wants to live "on the wrong side of the tracks" – wherever that may be.

I have reviewed and applied several academic and government sponsored studies, by analogy, to this case. These include a 1974 study of the impacts on suburban housing values of the siting of a coal burning power plant[2], a study on housing values in the aftermath of the Three Mile Island nuclear power plant failure[3], a series of studies on value and stigma impacts of a closed lead smelting plant in Dallas, Texas[4] and a study on the effects of a toxic waste clean-up at a defense plant in Grafton, MA.[5]

The impacts of wind power projects on local property values were also reviewed.[6] We have also reviewed an extensive study on the impacts of transmission towers and power lines.[7]

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[2] Blomquist, Glenn, "The Effect of Electric Utility Power Plant Location on Area Property Value", *Land Economics*, Vol. 50, pp 97-101 (1974)

[3] Gamble, H. B., Downing, R. H., *Effects of the Accident at Three Mile Island on Residential Property Values and Sales*, Pennsylvania State University for Division of Safeguards, Fuel Cycle and Environmental Research, Office of Nuclear Regulatory Research, U. S. Nuclear regulatory Commission, April 1981.

[4] McCluskey, op. cit.

[5] Wilson, Albert R., "Proximity Stigma: Testing the Hypothesis", *The Appraisal Journal,* Vol. 72, no. 3, Summer 2004, 253-261

[6] Sterzinger, George, et al., "The Effect of Wind Development on Local Property Values", Renewable Energy Policy Project, Washington, D. C., 2003. and Royal Institution of Chartered Surveyors, "Impact of

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
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These studies all relied on multiple regression hedonic modeling to predict outcomes. A residential hedonic pricing model regresses a series of descriptive statistics regarding a population of observations. For housing models, typical characteristics include house size, lot size, bathroom number, age, fireplaces, and distance from some node of value such as a downtown. The models are used to predict outcomes, testing variables for significance. Thus a researcher may take into account other variations in property characteristics in determining the impact of a locally undesirable land use ("LULU") on property value.

The key to any reliable statistical model is a sufficiently large data pool, or population, to allow random sampling. In general, these studies have proven most effective in urban or suburban residential areas where a high number of transactions involving fairly homogeneous properties can be observed. Given a significant sample size, fairly conclusive outcomes can be predicted using this method. To date, statistical studies attempting to predict value impacts on residential properties lack consistency in model design and applications of uniform adjustments to the data.[8]

Wind Farms on the Value of Residential Property and Agricultural Land", An RICS Survey; November 2004.

[7] Kroll, Cynthia A. and Priestley, Thomas. "The Effects of Overhead Transmission Lines on Property Values. A Review and Analysis of the Literature." Prepared for Edison Electric institute Siting and Environmental Task Force. July 1992.

[8] Kroll, Cynthia A., and Priestley, Thomas. "The Effects of Overhead Transmission Lines on Property Values. A Review and Analysis of the Literature." Prepared for Edison Electric Institute Siting and Environmental Task Force. July 1992, p. iii-iv.

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TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

Sparsely populated rural areas (such as the Wild Horse vicinity) are much more difficult to study because the population of transactions available for observation are so limited. For example, the wind power projects in the greater Kittitas Valley have been pending review in a highly public process for over two years. Similar to the KV Project, the Wild Horse project now has significant notoriety in the vicinity. Despite that notoriety, property values do not show a pattern of decline during the period of project review. However, due to the small sample of transactions in the Wild Horse Project vicinity, and unique property factors, the sales data does not enable a scientifically valid method to draw conclusions. More indirect methods must be used instead.[9]

While so-called "sensory cues" are key to impacts, (*i.e.* what can be seen, smelled or heard) the concept of stigma has much more to do with reputation and the intangible components of human desire that influence "marketability." Marketability is defined by appraisers as the state of being salable.[10] Thus anticipating the future impact of a marginal change in the fuel mix at a cement plant has as much to do with attendant publicity as with the event or potential source of contamination.

The breadth of the studies reviewed suggests that a continuum would be useful along which contamination sources and other potentially undesirable project externalities might be arrayed. At one end would be undesirable land uses, like a Superfund site, at the other end positive amenities like lake frontage or a panoramic view.

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[9] Ibid., p. 10

[10] *The Dictionary of Real Estate Appraisal*, Appraisal Institute, Chicago, Third Edition, 1993, p. 219.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

Overall, these studies provide little evidence that long-term stigma is widespread once sites are remediated and certified safe. Pursuing this continuum analogy, the infamous Love Canal site, once remediated and redeveloped, experienced resale prices only a net 10-15% below comparables in unaffected areas.[11]

The seminal modern study examining how locally undesirable land uses might impact property value was the Glenn Blomquist report in *Land Economics* (1974). He studied the impact of the siting of a coal-burning power plant on the suburban Chicago town of Winnetka, Illinois. The paper estimated the total impact of a "relatively small, clean power plant" which caused measurable damage over 2 miles away.[12]

The Blomquist study, relative to an urban power plant, coupled with McCluskey's work in Dallas with a lead smelter, established that 2 miles is the outer limit beyond which adverse impacts on value, from locally undesirable land uses, are no longer measurable. The wind energy facility study conducted by REPP looked at transactions within a five mile "view shed" but, again the REPP study was not able to establish any evidence that property values were adversely affected after the date that wind turbines began operating.

Wind energy project opponents, however, typically allege that property values will be lowered when in view of the turbines. Systematic research was undertaken to establish whether there is any basis for the claims. The Renewable Energy Policy Project (REPP)

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[11] Property Values, Stigma and Superfund, Superfund Redevelopment Program, U. S. EPA, 1999 http://www.epa.gov/superfund/programs/recycle/property.htm .

[12] Blomquist, op. cit.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

(Sterzinger et al 2000) reviewed data on property sales in the vicinity of wind projects and used statistical analysis to determine whether and to what extent the visual presence of turbines has influenced prices of properties which have been sold.[13]

The REPP report hypothesized that if wind energy development can reasonably be claimed to hurt property values, then review of sales data should show a negative effect on property values within view sheds of the projects. The study found no significant empirical support that property values were diminished in any of the 10 test cases from around the country.

Visual impact cases may be a better type of indicator to track consumer reactions to locally undesirable land uses. Overhead Transmission Lines have received the most scrutiny from the standpoint of their visual impact in rural areas. A 1992 study by Cynthia Kroll and Thomas Priestley concluded that fee appraisal offices have the longest history of evaluating line-of-sight impacts, but lack any in-depth statistical analysis to verify obtained results. Interviews and personal opinions can produce dramatically varying results (and do not have the finality of actual transaction data).[14] Since that time, a BPA study by Steven Bottemiller found no evidence of adverse impacts from overhead transmission lines by testing a null hypothesis.[15]

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[13] Sterzinger, George, et al., "The Effect of Wind Development on Local Property Values", Renewable Energy Policy Project, Washington, D. C., 2000

[14] Kroll, op. cit. pp 17-24

[15] Bottemiller, Steven C. and Wolverton, Marvin L., "Further Analysis of Transmission Line Impact on Residential Property Values," The Appraisal Journal (July 2003), pp. 244-252

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

While the data from many of the transmission line studies reviewed are often inconclusive, some general points of agreement between the studies are:

- Overhead transmission lines have the potential to reduce the sale price of residential and agricultural property.
- The estimated reduction in sale price for single-family homes has ranged generally from 0 to 10 percent.
- The largest impacts occur in rural areas with second home development, or potential for such.
- Agricultural values are likely to decrease if the transmission line poles are in a location that inhibits farm operations.
- Other factors, including neighborhood characteristics, and attributes of the land and improvements have a much greater effect on sale prices than the presence of a transmission line.
- Positive impacts may also occur, where the Right-of-Way is attractively landscaped and/or developed for recreational use.
- Effects are most likely to occur to property crossed by or immediately next to the line, but some impacts have been measured at longer distances.
- Impacts may be greater for small properties than for larger properties.
- Impacts may be greatest immediately following construction of a new line (or a major increase in size in an older Right-of-Way), diminishing over time.[16]

It is very difficult to make predictions about how a specific transmission line will affect the value of specific properties. Some short-term adverse impacts on property value and

[16] Kroll, Ibid. pp 55-57

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

salability may occur on an individual basis. However, these impacts are highly variable, individualized, and unpredictable.

This overview on transmission lines suggests that the most serious impact is the physical impairment of views for higher valued residences or vacation homes. I have found that the Kittitas County areas east of Ellensburg and flanking the Vantage Highway, have low valued soils (described below), limited residential development and are already in a very active power transmission corridor. It is clearly not a typical location for second homes. In fact none of the houses observed in this corridor, or among the seasonal cabins lying north of Whiskey Dick Mountain qualify as above average quality.

Q Please describe how existing local land use patterns and attributes affect the analysis of property values related to this Project.

A The Wild Horse Project will be sited on 8,600 acres amidst a 25,000 acre holding approximately 14 miles east of Ellensburg, WA, north of the Vantage Highway. The turbines will be constructed along and north and east of Whiskey Dick Mountain, a steep treeless, windblown ridge. Presently, the south slope of this rise is already traversed by a 500 KV BPA electric power transmission line. In fact a new parallel BPA 500kv line with similar towers is under construction immediately to the south of the existing corridor.

According to the Draft Environmental Impact Statement prepared for the Wild Horse Project, and verified upon site inspection, 92% of the project area consists of shrub-steppe, a zone where sagebrush predominates in a semi-arid climate. In fact, there

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

appears to be little arable farmland as one travels east from Kittitas. Land use consists of open fields with little evidence of cultivation or even grazing, and scattered fair to average quality homes, most built fairly close to the road and oriented facing the highway.

The areas that may be affected by the project may be analyzed on a parcel by parcel basis. At issue is physical proximity, impact on the view shed and the orientation of existing dwellings.

The proposed project will be buffered from its nearest neighboring dwellings by at least 1.75 miles on all sides. There are no affected residential properties to the barren east where much of the landscape is under government ownership, or to the west, where the hilly topography blocks views and there is no residential settlement. Scattered rural residential development along the Vantage Highway, south of the mountain, is already impacted by BPA towers and power lines. To the north a small group of seasonal hunting cabins and shelters, nestled in trees, but facing Whiskey Dick Mountain, will have their views impacted, yet the structures lie over two miles away and lack indoor plumbing and water.

The two mile buffer effectively eliminates noise and limits impacts to the obstruction of views. However, the landscape along the Vantage Highway is already heavily influenced by man-made structures or activities. The highway traverses a well established energy transmission corridor where 10 story transmission towers dot the skyline, with another line currently under construction.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

The local Operating Engineers Union has built a new training center just beyond the juncture of Parke Creek Road and the Highway. This facility includes a 12,975 sq. ft. classroom facility and a 9,600 sq. ft. three bay truck maintenance shop on a 320 acre site. What are more obtrusive are large cranes and the operation of earthmoving equipment employed for continual operator training. Further east, a large silage pit generates odors.

I spoke to the realtor, Larry Sharpe, who sold the site to the Engineers. The 1,600 acres sold for $800,000 or $500 per acre. Mr. Sharpe volunteered that the proposed Wild Horse project, proposed at least one mile away, would have little impact. He emphasized that the land cannot be irrigated (apparently, irrigation may not be possible due to concerns about tapping out the aquifer) and in Mr. Sharpe's opinion, for the foreseeable future, the property will likely remain just sage brush and desert.

Individual homesites along the highway were inspected and either are oriented so as not to be in view of the turbines or also look out on these other man-made structures.

I also traveled approximately 20 miles to the west and visited the homesite of Stephen Lathrop at 1572 Robinson Canyon Road to ascertain the potential impact the Wild Horse Wind Project might have there. I understood that Mr. Lathrop claimed to be adversely impacted by the Project. A small pocket of luxury homes have been developed here, but they are surrounded by more typical rural residential dwellings much more modest in size. Although Whiskey Dick Mountain provides a scenic backdrop to the northeast, and

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

wind energy turbines could possibly be visible from a distance, the landscape from these residences could hardly be described as pristine.

Frankly, executive homes, such as Mr. Lathrop's are much more susceptible to impacts created by lower value or poorly maintained properties in the immediate vicinity than what happens to a remote view.

From Robinson Canyon Road one sees tilled fields in close proximity, littered with various agricultural implements including expanses of white irrigation pipe. Looking further east one sees freeway signage and structures along Interstate 90, and still further east are the BPA transmission towers. It would be very difficult to demonstrate that the addition of faint turbines, approximately 20 miles distant, would impact property values given the existing level of neighborhood development.

Whereas there were simply too few properties potentially affected in the Wild Horse view shed to study appreciation rates, we used a general study area encompassing much of central Kittitas County, northwest of the City of Ellensburg. There, we found residential sales activity was significant enough before and after announcement of the KV Project to discern impacts. Compared to the Wild Horse site, the landscape surrounding the KV Project is somewhat similar, though a little more bountiful, characterized by hills, not exclusively barren of trees and rangeland with some scattered residences. There is also a transmission corridor with two main lines traversing and impacting most of the view shed.

DARREL L. PEEPLES
ATTORNEY AT LW
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OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

Forest cover exists to the north of the KV Project but we did not observe any commercial forestry operations taking place in the immediate vicinity. Aside from tracts which might be best described as suburban sprawl emanating to the west from Ellensburg, one finds more intensive rural settlement further north within wooded areas lying to the northwest toward Cle Elum. Those residences generally have no views of the BPA transmission corridor, either because of orientation or tree cover.

Ultimately, after creating an inventory of all properties which would have a view of the Project, we found only a handful of sites that might be construed to have unobstructed views that will be impaired when the turbines are constructed. This analysis addresses indirect impacts to properties merely affected within the view shed.

Q For the KV Project, did you review specific information and data relating to property values in Kittitas County?

A Yes. We reviewed and analyzed changes in property values over a 6 year period; 4 years before the KV announcement, and the two years thereafter. If property values were to be adversely impacted by the wind farm, then value trends post announcement should be negative compared with comparable areas unaffected by the turbine placement. We obtained historical sales data for both the City of Ellensburg and Lower Kittitas County. These two data sets could be considered "control" communities, in that, in aggregate, they were unaffected by the wind power project.

DARREL L. PEEPLES
ATTORNEY AT LW
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TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

This home sale information has been compiled and published on a monthly basis in the "REAL REVIEW" since 1988 by Betsy Billeter of Central Washington Real Estate Services. Similar information for the Upper County area, centered around Cle Elum, had not been similarly collected. However, the Upper County would be less useful as a control area because of the influence from Bellevue and the pending development of the Suncadia Resort.

Our data shows that residential property values appreciated within the affected area (where we tabulated 21 sets of paired sales) at significantly higher annual appreciation rates compared with the two control data sets. In fact, property values appreciated across the board. While the pace of appreciation slowed somewhat in 2001, before the announcement, we attribute the apparent slowdown to the impact of the dot.com bust which affected much of Northwest Washington State and the Eastside of Seattle. By 2002 it appeared markets had recovered.

The REPP study showed that in most communities tested, property values increased post installation at the same rate or at faster rates than the control community. While the KV Project has not been constructed, given the market trends since Project announcement, our analysis confirmed this premise at the local Kittitas County level.

Q Please summarize and briefly describe your conclusions and opinions regarding the potential effect of the proposed Wild Horse Wind Power Project on local property values for vacant, undeveloped properties.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

A First, most of the studies, together with empirical data gathered, bear out that unimproved agricultural land will not be adversely affected by remote improvements that will not emit any type of effluent or other byproduct that would limit soil productivity. Further, adverse impacts diminish with the grade and quality of the soils. Soil quality and the relative productivity of the surrounding treeless steppe terrain make it highly unlikely that these parcels will be affected by the proposed Project except for their rural residential potential.

Many of the sites near the proposed project that might be affected lie fallow and unimproved. Most are zoned Forest and Range which allow one dwelling per site. Some appear to be used for livestock grazing but most of the land appears to have limited capacity for forage.

We have found that mere orientation of improvements constructed on undeveloped properties can mitigate or improve views. In other words, where property is vacant, future residential development, including home design and orientation, can and will be based upon subjective personal preferences for views. One builder may choose a view which excludes the wind turbines from primary viewpoints in a home, while another builder may choose to observe the turbines.

Another related issue is the availability of access and utilities to some of the now vacant parcels that might someday be improved with homes. Particularly in this location, costs are high to extend electricity, dig domestic wells, create septic systems and build roads

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

suitable for year round access. These costs tend to reduce the likelihood of imminent or near-term development of many of the properties in the vicinity of the project.

Fifty four privately owned parcels within a five mile radius of the Wild Horse Project average 46 acres and range from 3 to 600 acres in size. Should a site be selected for home construction, the parcels are large enough to provide a builder great flexibility in siting and orienting the improvements so as to be unaffected by a view of the turbines, if so desired.

Therefore, it is my professional opinion that it cannot be said that future utility or value of given sites will be adversely affected by the Project.

It should be noted that every property is unique and fixed in place. Many human factors involving personal preferences come in to play when property is purchased, particularly for residential use. And, of all types of property use, residential properties are most sensitive to personal preference. Thus the fact that one party likes shade and another sun does not mean that a particular parcel without trees is worth more or less. We found that some people like the idea of wind turbines, and some do not. However, we did not find that there is empirical support for the claim that wind turbines will adversely affect property values.

Other studies, including an important analysis of how a closed lead smelter (and designated EPA Superfund site) affected property values in the Dallas area, suggest that value impacts become negligible outside a two mile radius from the "undesirable" land

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

use. Further, since no contamination or emission concerns are at issue with wind turbines, only potential impacts on the view shed itself could have a value impact. Other studies underscore the relative resiliency of property values to indirect impacts when offsetting amenities or macro-economic factors are present.

Q Please summarize and briefly describe your conclusions and opinions regarding the potential effect of the proposed Kittitas Valley Wind Power Project on property values for developed properties in the vicinity of the project.

A We analyzed appreciation rates extracted from paired sales and multiple listing records reporting the average prices for homes sold. A paired sale is an observation of the sale and re-sale of the same property, over time. So long as there have been no changes in the property during the interim, the difference between the sale prices can be extracted as an indicator of passive appreciation. Ultimately each pair must be analyzed for site specific changes or the circumstances of the parties involved. However, with a high frequency of transactions, aggregated trends become more reliable.

What was remarkable about the study area was the relative high number of paired sales which were reported since announcement of the Project (12, or nearly 20% of the parcel inventory, a very high rate for a rural area). In virtually every case, robust appreciation rates were indicated. This suggests that the marketability of the sites was unaffected by the proposed project and that land values were unaffected as indicated by the rates of value appreciation.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

We found that paired sales in the area surrounding the KV project were appreciating at rates well above that of the county in general and the city of Ellensburg. This holds true for the four-year PRE-Announcement period and the 2-year POST-Announcement period (our study examined sales through the first quarter of 2004), with rates above the 10% range in the vicinity of the Project versus rates below 10% in Ellensburg and Lower Kittitas County.

Q Please describe how your research of the KV Project site and vicinity influences your analysis of the Wild Horse Project site and vicinity.

As stated previously, compared to the KV site, the Wild Horse site is relatively remote, without sufficient sales data for a statistically valid analysis based on recent sales. However, overall we find that the influence of the Seattle-Bellevue area, only 90 minutes to the west, may have much to do with evident demand for homesites in western Kittitas County, but probably not in the Wild Horse project vicinity, east of Ellensburg. Second, the local economy is influenced by agricultural activities and the emergence of Central Washington University as a regional center for research and culture. Third, with regard to the Wild Horse site, the Kittitas Valley and the Vantage Highway-Whiskey Dick area must be recognized as a major power transmission corridor. This is why the confluence of access to the power grid coupled with presence of the wind resource makes this an attractive site for wind turbines. Given these factors and considering more general trends in real estate prices, we find no evidence that the Wild Horse Wind Project will adversely affect local property values.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

Q Please summarize your opinions regarding the potential impact of the Wild Horse Wind Power project on property values and sales of properties in the vicinity of the Project.

A As indicated above, we would expect that most impacts on property values and sales would occur within two miles of the Project site. However, our analysis extended beyond this area. For both undeveloped and developed properties, the visual landscape of the Project area is dominated by substantial electric transmission corridors. Undeveloped properties tend to be large parcels, which will typically be very costly to develop due to the absence of utilities and services, including electricity. Orientation of future improvements on these properties will mitigate impacts, if any. The Project will have no impact upon property values for undeveloped properties. Existing residential properties lying within a five mile view shed, but outside a two mile radius were found to be of average to below-average quality housing stock, much less susceptible to view impact than above average quality houses. Further, virtually all of the residences on the highway side of the Project already lie in the transmission corridor, while the seasonal cabins to the north have insufficient utility, lacking indoor plumbing and other services, to be affected by changes in a remote view. We find no evidence that the Project will have an adverse impact upon the future sales or values of developed properties.

DARREL L. PEEPLES
ATTORNEY AT LW
325 WASHINGTON ST. NE #440
OLYMPIA, WA 98506
TEL. (360) 943-9528 FAX (360) 943-1611
dpeeples@ix.netcom.com

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Parties Interviewed

Jill McCluskey, PhD, Associate Professor, School of Economic Sciences, Washington State University, Pullman, WA (509) 335-2835; mccluskey@wsu.edu

James Strathman, PhD, Director, Center for Urban Studies, College of Urban and Public Affairs, Portland State University, PO Box 751, Portland, OR (503) 725-4069; strathmanj@pdx.edu

Gordy Ford, Permit Technician, Kittitas Community Development Services, 411 N. Ruby St., Ellensburg, WA (509) 962-7506; fordg@co.kittitas.wa.us

Larry Sharp, Kittitas Valley Realty-Coldwell Banker, (509) 925-8700

Betsy Billeter, Central Washington Real Estate Services, "REAL REVIEW," www.comparablesales.net